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Book Reviews

H. HALBERSTAM AND H.-E. RICHERT, *Sieve Methods*, Academic Press, 1974, 364 pp. Sieve methods are an extraordinary and astonishing development in number theory. From Erastosthenes to Bombieri, Chen and Gallagher, we witness one of the amazing conquests of the mind. A permanent achievement.

W. H. FLEMING AND R. W. RISHEL, *Deterministic and Stochastic Optimal Control*, Springer, 1975, 222 pp. Substantial mathematics and thorough coverage of a wide-ranging subject, including a rigorous no-nonsense treatment of dynamic programming. Well above the average for an exposition in this field.

R. L. GREGORY AND E. H. GOMBRICH, *Illusion in Nature and Art*, Scribner's, 1973, 288 pp. Just what the title says: a study of illusion from all sides. The kind of book mathematicians relish.

R. ASKEY, Ed., *Theory and Application of Special Functions*, Academic Press, 1975, 560 pp. Yesterday it was differential equations, today it is group representation, tomorrow it may be second quantization, but behind all these fields there is one invariant: the theory of special function and the identities they satisfy. Particularly remarkable in this up-to-date survey are: (1) Case's development of orthogonal polynomials with concepts from scattering theory, (2) Gasper's study of positivity, (3) Koornwinrder's development of orthogonal polynomials in two variables.

H. A. TAHA, *Integer Programming*, Academic Press, 1975, 380 pp. Whatever one may think about engineers, one must admit they write clearly, to the point, and engagingly. They have realized long ago that if you wish the reader to follow rather than decipher, the linear deductive technique of exposition is the worst. Let us hope certain mathematicians learn the engineers' lesson before it is too late.

D. MUMFORD, *Curves and Their Jacobians*, University of Michigan Press, 1976, 104 pp. The unparalleled David Mumford has once more given us the privilege of enjoying mathematics of the highest quality in style and clarity rarely matched. More! More!

P. BECKMANN, *Orthogonal Polynomials for Engineers and Physicists*, Golum Press, 1973, 280 pp. The theory has been better expounded many times before, but the disparate applications have never been brought under one roof in such abundance. Indispensable to eclectic mathematicians.

G. SHAFER, *A Mathematical Theory of Evidence*, Princeton University Press, 1976, 297 pp. Top-notch exposition, attractive not only to specialists but to mathematicians at large, this book displays broad mathematical culture and unusual tasks.

G. LUSZTIG, *The Discrete Series of Gl_n Over a Finite Field*, Princeton University Press/ University of Tokyo Press, 99 pp. Usually, difficult subjects are the last to receive a decent exposition, and it is comforting to find an exception, such as this one, written by one of the youngest masters.

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